



# EMERALD ASH BORER

can turn a healthy forest  
into a dead forest.

Stop the spread of this killer.  
Here's how you can help.

## Don't move firewood

- EAB travels in firewood. When you camp, leave your wood at home. Buy only local firewood, and burn it all before you leave.

## Avoid planting ash trees

- EAB kills only ash trees. Choose other large shade trees for landscaping. Find good alternatives at [mdc.mo.gov/node/8045](http://mdc.mo.gov/node/8045).

## Investigate potential EAB infestations

- Follow the steps in this brochure to determine whether your ash tree suffers from EAB or some other ailment.

If you believe your ASH TREE is  
infested with EAB, call toll-free  
**1-866-716-9974**

Not sure if your ASH TREE suffers  
from EAB? Call a certified arborist or forester  
for help. Visit the Missouri Department of  
Conservation Web site for tips on how to  
hire a qualified professional in your area:

[mdc.mo.gov/node/7182](http://mdc.mo.gov/node/7182)

For more information about EAB, visit  
the following cooperative Web site:

[www.eab.missouri.edu](http://www.eab.missouri.edu)



## A cooperative effort between:

Missouri Department of Agriculture  
Missouri Department of Conservation  
Missouri Department of Natural Resources  
University of Missouri Extension  
U.S. Department of Agriculture APHIS PPO  
U.S. Army Corp of Engineers

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Equal opportunity to participate in and benefit from programs of the Missouri Department of Conservation is available to all individuals without regard to their race, color, national origin, sex, age or disability. Questions should be directed to the Department of Conservation, P.O. Box 180, Jefferson City, MO 65102, (573) 751-4115 (voice) or 800-735-2966 (TTY), or to the U.S. Fish and Wildlife Service Division of Federal Assistance, 4401 N. Fairfax Drive, Mail Stop: MBSP-4020, Arlington, VA 22203.



# EMERALD ASH BORER

# CSI

Are your ash trees dying? A small green  
beetle could be the culprit. Do some  
crime scene investigation to find out.

# CSI: YOUR ASH TREES

Dying ash trees. Winding S-shaped tunnels just under the bark. Small D-shaped holes on the trunk. These clues helped scientists uncover the presence of emerald ash borer (EAB), a deadly ash tree killer, in Missouri in July 2008. Since the 1990s, EAB has destroyed millions of ash trees in at least 15 states. Help stop its spread. Use this brochure to investigate your yard or timber lot. **Call 866-716-9974 if you find evidence of EAB.**

## Suspect's Profile

- Small metallic green beetle, ½ inch long
- Native to Asia
- Attacks only ash trees
- First detected in the U.S. in Michigan in 2002
- Has since spread to other states, including Indiana, Illinois and Missouri
- Larvae feed under bark, cutting off the flow of water and nutrients to the tree
- Travels in infested firewood and nursery stock



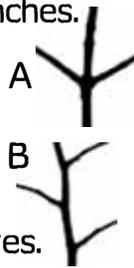
HOWARD RUSSELL,  
MICHIGAN STATE UNIVERSITY,  
BUGWOOD.ORG

## PART 1: Identify the Victim

EAB attacks only ASH TREES. If your tree isn't an ash, you don't have EAB.

### STEP 1. Look at your tree's branches.

- Oppositely branched as in Figure A? If yes, go to step 2.
- Alternately branched as in Figure B? If yes, STOP! Your tree is not an ash.



### STEP 2. Look at your tree's leaves.

- Simple—a single leaf joined by a stalk to a woody stem as in Figure C. STOP! Your tree is not an ash.
- Compound—a group of leaflets joined by a stalk to a woody stem as in Figure D or E? Go to step 3.



### STEP 3. Look at the leaflets.

- 3 to 5 leaflets, margin smooth or coarsely toothed as in Figure D? STOP! Your tree is not an ash.
- 5 to 9 leaflets, margin smooth or finely toothed as in Figure E? Your tree may be an ash. Go to Part 2.

## PART 2: Examine the Victim

Does your tree look healthy or is it showing signs of attack? Look for these clues. If your ash tree shows two or more of these symptoms, move on to Part 3.



## PART 3: Check for Exit Wounds

**STEP 1. Do you see multiple holes in the trunk of your ash tree? If so, what shape are they?**

*TIP: Use a knife to slightly shave the bark flat so you can gauge the true shape of the hole.*

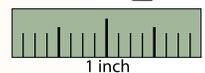
- Round as in figure F? STOP! EAB does not make round holes.
- Oval-shaped as in figure G? STOP! EAB does not make oval holes.
- D-shaped as in figure H? Go to step 2.



**STEP 2. How wide are the D-shaped holes?**

- About 1/8 inch. Your tree may be infested with EAB. CALL **1-866-716-9974**.
- 1/4 inch or wider? STOP! EAB holes aren't usually this wide.

D-shaped exit hole shown actual size (orientation varies)



CLOCKWISE FROM TOP LEFT: DAVE SMITLEY, MICHIGAN STATE UNIVERSITY; JAMES W. SMITH, USDA APHIS PPO, BUGWOOD.ORG; JOSEPH O'BRIEN, USDA FOREST SERVICE, BUGWOOD.ORG; JIM RATHERT; ART WAGNER, USDA APHIS PPO, BUGWOOD.ORG; DAVID CAPPAERT, WWW.FORESTRYIMAGES.ORG

F—MINNESOTA DEPT. OF NATURAL RESOURCES ARCHIVE, BUGWOOD.ORG  
G—HANNES LEMME, BUGWOOD.ORG  
H—JOSEPH O'BRIEN, USDA FOREST SERVICE, BUGWOOD.ORG